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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,927	10/26/2000	Jacques Yves Guigne	20/200	7122

7590 12/10/2001
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EXAMINER

LOBO, IAN J

ART UNIT PAPER NUMBER

3662

DATE MAILED: 12/10/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/698,927

Applicant(s)

GUIGNE, JACQUES YUES

Examiner

Ian J. Lobo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5 and 8-13, drawn to a system for sensing regions at or under a seafloor, classified in class 367, subclass 88.
 - II. Claims 6 and 7, drawn to a system for sensing regions at or under a seafloor including the generating of a specific display, classified in class 367, subclass 107.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group II and Group I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the display may be generated without the specific transducer array claimed. The subcombination has separate utility such as by itself.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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4. During a telephone conversation with Mr. Rosen on December 4, 2001 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-5 and 8-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6 and 7 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

5. The disclosure is objected to because there is no brief description of Fig. 12A on page 5. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

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published under 35 U.S.C. 122(b). Therefore, this application is examined under 35

U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 8, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Neal ('875).

8. Claims 8, 10 and 11 are rejected under 35 U.S.C. 102(a and/or e) as being anticipated by Wilk ('199).

The patent to Neal discloses a matrix system that may be utilized in sonar. The system includes an array (10) comprising a plurality of transducers (12) and circuitry connected to the transducers. The plurality of transducers are arranged in a row and include at least three detectors.

The patent to Wilk discloses a system including an array (12) comprising a plurality of transducers (14) and circuitry connected to the transducers. The plurality of transducers are arranged in a row and include at least three detectors.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neal ('875) or Wilk ('199) when taken in view of Guigne ('449).

The difference between claims 1 and 12 and the aforementioned Neal or Wilk systems is the claim specifies that the transducers are energized by a carrier frequency of at least 200 kHz. Neither Wilk nor Neal discloses such a specific carrier frequency.

Guigne teaches that operating carrier frequencies of at least 100 kHz (0.1 MHz) are well known in the art of undersea sonar investigations. Thus, it is seen from Guigne, that the claimed carrier frequency of 200 kHz is within the operating range of conventional sonar detection. Thus, it would not have been unobvious to a skilled artisan to utilize an operating frequency of 200 kHz in Neal's or Wilk's system to achieve improved terrain imaging. Claims 1 and 12 are so rejected.

Dependent claim 3 is further provided by the above combination of prior art.

11. Claims 2, 4, 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neal ('875) or Wilk ('199) when taken in view of Guigne ('449), as applied to claims 1 and 12 above, and further in view of the SIR to Thompson et al ('490).

Claims 2, 4, 5 and 13 further differ over Wilk and Neal in the specific height above the sea floor of the prospecting system.

Note that on col. 3, lines 43-44, Thompson et al teach that a preferable height for a marine prospecting system is about 1 to about 20 feet above the sea bottom. This is equivalent to the claimed less than 6 meters. In view of Thompson et al, it is obvious to one of ordinary skill in the art to utilize the systems of Neal or Wilk at a height of less than six meters above the sea floor.

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12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neal ('875) or Wilk ('199) as applied to claim 8 above, and further in view of the patent to Kosalos et al ('931).

Claim 9 specifies a spacing of "no more than 25 cm" between transducers which spacing is not disclosed by either Wilk or Neal. However, the patent to Kosalos et al teaches (col. 6, lines 58-66) that in terrain imaging sonar the geometry of the transducer array is a function of the characteristics of the acoustic beam desired. The characteristics of the acoustic beam depends upon, among others, the separation distance between acoustic transducers and the operating frequency of the system. Thus, it would appear that the claimed 25 cm spacing is of a design choice that one of ordinary skill in the art would find obvious.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (703) 306-4161. The examiner can normally be reached on Mon - Fri, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (703) 306-4171. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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306-4195 for regular communications and (703) 306-4195 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4177.

A handwritten signature in black ink, appearing to read "Ian J. Lobo", written in a cursive style.

Ian J. Lobo
Primary Examiner
Art Unit 3662

ijl
December 4, 2001